

## CHAPTER 2. TRAINING PROGRAMS AND AIRMAN QUALIFICATIONS

### SECTION 4. FLIGHTCREW GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS

**391. GENERAL.** There are two types of emergency training that Federal Aviation Regulations (FAR) Parts 121 and 135 operators must provide to flight crewmembers. One type is “aircraft-specific.” This type of emergency training includes instruction and practice in emergency and abnormal procedures associated with aircraft systems, structural design, and operational characteristics. This training provides pilots and flight engineers with the knowledge and skills necessary to perform the emergency or abnormal procedures specified in the approved airplane flight manual (AFM) (or those AFM procedures incorporated in the operator’s aircraft operating manual). Examples of such procedures are those used when engine, landing gear, flight control, and/or pressurization problems occur. “Aircraft-specific” also includes training on the location of specific items of emergency equipment on the aircraft, such as fire extinguishers, oxygen bottles, liferafts, life vests and first aid kits. Aircraft-specific training must be included in the aircraft ground and flight training curriculum segments as described in sections 4 and 5 of this chapter. The other type of emergency training is referred to as “general emergency training.” General emergency training is required for crewmembers on each item specified in FAR 121.417 and 135.331. This section provides direction and guidance on the content, methods of presentation, evaluation, and approval of flightcrew general emergency training.

A. Two distinct subject areas of training are required in the conduct of general emergency training. These areas of training are “emergency drill” training and “emergency situation” training. The general emergency training curriculum segment must contain training modules that provide for training in both subject areas.

(1) “Emergency drill” training provides instruction and practice in the actual use of certain items of emergency equipment, such as fire extinguishers, life vests, oxygen bottles, and first aid equipment.

**NOTE:** The discharge of Halon extinguishing agents during firefighting drills is not appropriate unless a training facility is used that is specifically designed to prevent harm to the environment from the discharged Halon. When such facilities are not used, other fire extinguishing agents that are not damaging to the environment should be used during the drills.

(2) “Emergency situation” training consists of instruction on the factors involved, as well as the procedures to be followed, when emergency situations occur. Examples include passenger evacuations, ditching, rapid decompressions, aircraft fires, and persons needing first aid.

B. The training modules for general emergency training must address the type of operation performed by an operator. For example, if a company operates aircraft above 25,000 feet, crewmembers must receive instruction in subjects such as respiration, hypoxia, decompression sickness, and any related procedures. As another example, a company that does not conduct extended-overwater operations does not need to conduct training in the use of liferafts.

### **393. GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS.**

A. *FAR Part 121.* All FAR Part 121 operators must develop and obtain approval of a general emergency training curriculum segment for the initial new-hire category of training. FAR Part 121 operators using both Group I (propeller-driven) and Group II (turbojet) aircraft must develop a general emergency training curriculum segment for flight crewmembers required to receive initial equipment training on an aircraft in a different group for the first time. FAR Part 121 operators may elect (or principal operations inspectors (POI) may require them) to develop a separate general emergency training curriculum segment for flight crewmembers required to receive initial equipment training on an aircraft in the same group. In this situation, the decision to develop a separate general emergency training curriculum segment

should be based on the complexity of the operation, the extent of the differences in the flight regimes of the aircraft involved, and the extent of differences in the emergency equipment and procedures associated with the aircraft involved.

*B. FAR Part 135.* All FAR Part 135 operators must develop and obtain approval of a general emergency training curriculum segment for the initial new-hire category of training. FAR Part 135 operators may elect (or POI's may require them) to develop a separate general emergency curriculum segment for flight crewmembers required to receive the initial equipment category of training. In this situation, the decision to develop a separate general emergency training curriculum segment should be based on the complexity of the operation, the extent of the differences in the flight regimes of the aircraft involved, and the extent of differences in the emergency equipment and procedures associated with the aircraft involved. For example, an operator who operates both reciprocating-powered and turbojet-powered aircraft may need to develop separate general emergency training curriculum segments for incorporation into the initial equipment category of training appropriate for these types of aircraft.

*C. Transition and Upgrade Training--FAR Parts 121 and 135.* There is not a requirement for a separate general emergency curriculum segment for the transition and upgrade categories of training. For these categories of training, flight crewmembers will have previously received the appropriate general emergency training during initial new-hire training or, when appropriate, initial equipment training. Aircraft-specific emergency training must be included in the transition or upgrade aircraft ground and flight training curriculum segments.

*D. Recurrent Training--FAR Parts 121 and 135.* FAR Parts 121 and 135 operators must develop and obtain approval of a separate general emergency training curriculum segment for the recurrent category of training. Usually it will be appropriate to have two general emergency curriculum segments, one that reflects a 12-month cycle of emergency situation training and another that reflects a 24-month cycle of emergency drill (actual hands-on) training. See paragraph 395. It is acceptable, however, to incorporate the emergency drill "hands-on" training into a single curriculum segment provided it clearly requires that flight crewmembers receive the emergency drill (hands-on) training at least once each 24 months.

*E. Requalification Training--FAR Parts 121 and 135.* Whether a general emergency curriculum segment is required for the requalification category of training is dependent on the purpose of the requalification training. In general, if the purpose of

the requalification training is to requalify flight crewmembers who have been unqualified for more than 1 year, a general emergency training curriculum segment should be required.

**395. RECURRENT GENERAL EMERGENCY TRAINING.** FAR Parts 121 and 135 operators are required to conduct recurrent general emergency training. This curriculum segment is separate from the aircraft ground recurrent training curriculum segment. Recurrent general emergency training consists of "emergency situation" and "emergency drill" training modules.

*A.* Recurrent general emergency training for FAR Parts 121 and 135 operators consists of all the items contained in FAR § 121.417 and FAR § 135.331 respectively. This training must be conducted every 12 months, usually at the same time that aircraft ground recurrent training is conducted.

*B.* The emergency situation training modules that are part of the recurrent general emergency training curriculum segment must include at least the following:

- Rapid decompression (if applicable)
- In-flight fire (or on-the-surface) and smoke control procedures
- Ditching and evacuation situations
- Illness, injury, the proper use of first aid equipment, and other abnormal situations involving passengers or crewmembers

*C.* The emergency drill training modules, which require the crewmember to actually operate the items of emergency equipment (hands-on), must be conducted at least every 24 months. During the alternate 12-month periods, the emergency drill training may be accomplished by pictorial presentation or demonstration. The emergency drill training modules that are part of the recurrent general emergency training curriculum segment must include at least the following:

- Operation of emergency exits (such as floor-level, overwing, and tail cone) in the normal and emergency modes
- Operation of each type of hand-held fire extinguisher
- Operation of each type of emergency oxygen system
- Donning, use, and inflation of life preservers and other flotation devices (if applicable)

- Ditching procedures (if applicable), including cockpit preparation, crew coordination, passenger briefing, cabin preparation, the use of life lines, and boarding of passengers and crew into a liferaft or slideraft, as appropriate

D. The following illustration serves to clarify the chronological order of recurrent general emergency training requirements:

TYPE OF RECURRENT GENERAL EMERGENCY TRAINING REQUIRED	MONTHS SINCE FIRST GENERAL EMERGENCY TRAINING CURRICULUM WAS COMPLETED			
	12 MONTHS	24 MONTHS	36 MONTHS	48 MONTHS
Emergency Situation Training	X	X	X	X
Emergency drill (either hands-on or pictorial presentation/demo)	X	X	X	X
Emergency Drill (hands-on required)		X		X

### 397. GENERAL EMERGENCY TRAINING MODULES.

A. A general emergency training curriculum segment must include as many training modules as necessary to ensure appropriate training. Each module outline must provide at least the following information:

- A descriptive title of the training module
- A list of the related elements or events that will be presented during instruction on the module

B. The training module outline must contain sufficient elements or events to ensure that a student will receive training on the emergency equipment and procedures common to all of the operator's aircraft and the type of operation being conducted.

C. It is unnecessary to include detailed descriptions of each element within a training module outline. Such detailed descriptions are appropriate when included in the operator's courseware, such as lesson plans. During the approval process, the POI should review courseware as necessary to ensure that the scope and depth of the training modules are adequate.

An example of one of the many acceptable methods of presenting a general emergency training module outline follows:

#### 3. AIRCRAFT FIRES

- (a) Principles of combustion and classes of fires
- (b) Toxic fumes and chemical irritants
- (c) Use of Halon, CO 2 , and water extinguishers
- (d) Lavatory fires
- (e) Smoke masks and goggles

*FYI: In the preceding illustration, such items as engine fire procedures, electrical fire procedures, and the location of each fire extinguisher are intentionally not included. These elements or events are included in the aircraft ground and flight training curriculum segments.*

D. The following example illustrates the interrelationship of training modules in the flight crewmember general emergency training curriculum segment:

#### IV. FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING CURRICULUM SEGMENT

##### A. Training Objective:

##### B. Emergency Situation

1. Crewmember Duties and Responsibilities
2. Crewmember Coordination and Company Communication
3. Aircraft Fires
4. First Aid Equipment
5. Illness, Injury, and Basic First Aid
6. Ground Evacuation
7. Ditching

##### 8. Rapid Decompression

10. Crewmember Incapacitation
11. Basic Survival Training

##### **8. Rapid Decompression**

- (a) Respiration
- (b) Hypoxia, Hypothermia, and Hyperventilation
- (c) Time of Useful Consciousness
- (d) Gas Expansion/Bubble Formation
- (e) Physical Phenomena and Actual Incidents

*Title of Curriculum Segment*

*Statement of Training Objectives*

*Title of Subject Area*

*Training Modules Within a Curriculum Segment*

*Elements Within a Training Module*

**399. TRAINING HOURS.** A minimum number of training hours for general emergency training curriculum segments is not specified in FAR Parts 121 and 135. When approving these curriculum segments, the FAA must consider the complexity of the type of operation and the complexity of the aircraft used. When approving general emergency training curriculum segments, POI's should use table 3.2.4.1.

as a guide. The table includes a list of national norms for the initial new-hire general emergency training hours. The training hours for a complex type of operation may need to exceed the national norm while training hours below the national norm may be acceptable for a less complex type of operation. National norms have not been established for initial equipment or recurrent general emergency training.

**TABLE 3.2.4.1.**  
**INITIAL NEW-HIRE FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING HOURS**

AIRCRAFT FAMILY	TYPE OF OPERATION	TRAINING HOURS
FAR Parts 121 and 135 Transport and Commuter Category	All	8
General Purpose Multiengine Airplanes	Land Operations	4
	Extended Overwater	6
	Uninhabited Environment	6
Single-Engine Airplanes	Land Operations	2
	Extended Overwater	4
	Uninhabited Environment	6
Helicopters	Land Operations	4
	Extended Overwater	6
	Uninhabited Environment	6

**401. COURSE COMPLETION REQUIREMENTS.** Completion of the curriculum segment must be documented by an instructor's or supervisor's certification that the student has successfully completed the course. The certification is usually based on the results of a written examination given at the end of the course. With some training methods, the certification may be based on student progress checks administered during the course.

**403. CONTENT OF FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS.** A general emergency training curriculum segment must indicate that training will be given, appropriate to the operator's type of operation, in two distinct areas. These areas of training are "emergency situation" and "emergency drill" training.

**405. EMERGENCY SITUATION TRAINING MODULES.** Emergency situation training modules provide instruction, demonstration, and practice in the handling of emergency situations. Examples of recommended training modules for the emergency situation subject area follow:

*A. Flight Crewmember Duties and Responsibilities.*

- Emergency assignments
- Captain's emergency authority
- Reporting incidents and accidents

*B. Crew Coordination and Company Communication.*

- Cabin crew notification procedures
- Ground agency notification procedures (FAA, Airport Authority)
- Company communication procedures

*C. Aircraft Fires.*

- Principles of combustion and classes of fire
- Toxic fumes and chemical irritants
- Use of appropriate hand-held extinguishers
- Lavatory fires
- Smoke masks and goggles

*D. First Aid Equipment.*

- Contents of first aid kit
- Requirements for first aid kit integrity
- Use of individual items

*E. Illness, Injury, and Basic First Aid.*

- Principles of CPR
- Ear and sinus blocks
- Seeking medical assistance
- Treatment of shock
- Heart attack and pregnancy situations

*F. Ground Evacuation.*

- Aircraft configuration
- Directing passenger flow
- Blocked or jammed exit procedures
- Fuel spills and other ground hazards
- Handicapped persons

*G. Ditching.*

- Cockpit and cabin preparation
- Passenger briefing
- Crew coordination
- Primary swells, secondary swells, and sea conditions
- Ditching heading and water landings
- Ditching at night

*H. Rapid Decompression.*

- Respiration
- Hypoxia, hypothermia, hyperventilation
- Time of useful consciousness
- Gas expansion/bubble formation
- Physical phenomena and actual incidents

*I. Previous aircraft accidents/incidents.*

- NTSB accident report reviews
- Human factors/considerations
- NASA reporting system

*J. Crewmember incapacitation.*

- Company procedures
- Reporting requirements (NTSB)
- Interference with crewmembers

*K. Hijacking and Other Unusual Situations.*

- Hijack procedures
- Bomb threat procedures
- Security coordinator responsibilities
- In-flight intercept signals and procedures

**407. EMERGENCY DRILL TRAINING MODULES.** The area of a general emergency training curriculum segment referred to as emergency drill training provides instruction, demonstration, and practice in the actual operation of certain items of emergency equipment. Examples of recommended training

modules for the emergency drill training subject area are as follows:

*A. Hand-Held Fire Extinguishers.*

- Inspection tags, dates, and proper charge levels
- Removal and stowage of extinguishers
- Actual discharge of each type of extinguisher
- Maintenance procedures and minimum equipment list (MEL)

*B. Portable Oxygen Systems.*

- Inspection tags, dates, and pressures
- Removal and stowage of oxygen bottles
- Actual operation of each type of bottle and each type of mask

*C. Emergency Exits and Slides.*

- Actual operation (open and close) of each exit in the normal and emergency modes
- Instruction on slide or slideraft deployment, transfer from one door to another, and detachment from the aircraft (or training device) of each type of slide or slideraft (if applicable)
- Actual use of slide or slideraft (This requirement needs to be accomplished only once during initial new-hire or initial equipment training.)

*D. Ditching Equipment (if applicable).*

- Actual donning, use, and inflation of individual flotation means (life preservers)
- Instruction on liferaft removal from the aircraft and inflation of each type of liferaft
- Instruction on the use of life lines
- Actual boarding of a liferaft or slideraft
- Instruction on survival equipment

**409. RECURRENT GENERAL EMERGENCY TRAINING MODULES.** Recurrent general emergency training consists of elements and events (in the form of training modules) that are selected by the operator and approved by the POI. These training modules consist of emergency situation training elements and emergency drill training events.

A. During alternate 12-month periods, when emergency drill (actual hands-on) training is not required, operators may use approved pictorial presentations or demonstrations. When approving pictorial presentations, the POI shall ensure that the presentation meets the following criteria:

(1) The equipment shown in each pictorial presentation must be functionally identical to the equipment on board the aircraft.

(2) The pictorial display of equipment must be large enough to be properly viewed by the whole class.

(3) All procedures must be accurately and logically presented.

(4) All emergency equipment not actually demonstrated during the course of instruction must be presented pictorially.

B. Every 24 months each crewmember must receive emergency drill (actual hands-on) training. This means each crewmember must actually perform each drill or procedure and must actually operate each piece of emergency equipment specified in paragraph 407. Certain hands-on emergency drill events must be conducted in a static aircraft or in an approved cabin/exit mockup training device.

**411. CABIN AND EXIT MOCKUPS.** Hands-on emergency drill training for items such as emergency exits and passenger oxygen systems should be conducted in a static aircraft, in an approved cabin mockup training device, or by use of an approved exit mockup training device. Cabin and exit mockup training devices should be representative of a full-scale section of an aircraft. Cabin mockups should include operational doors, window exits, slides, rafts, and other equipment used in emergency drill training. POI's shall not approve cabin or exit mockup training devices without an inspection to determine the adequacy of the devices. Generally, cabin and exit mockup training devices are acceptable if they meet the following criteria:

A. Cabin mockups should be representative of the operator's aircraft with appropriate equipment installed.

B. Cabin mockups should be full-scale, except for length.

C. The forces required to open the exit mockups should duplicate normal and emergency conditions with the slides or slideraft installed.

D. The mechanisms and instructions required to operate the exits should be representative of the operator's aircraft.

#### **413. EVALUATION OF FLIGHT CREWMEMBER GENERAL EMERGENCY TRAIN-**

**ING CURRICULUM SEGMENT OUTLINES FOR INITIAL APPROVAL.** When evaluating a general emergency training curriculum segment for initial approval, inspectors must determine that the training modules contain information of sufficient quality, scope, and depth to ensure that the flight crewmember can perform emergency duties and procedures without supervision. Inspectors should use the job aid in this section when evaluating the proposed curriculum segment outline.

#### **415. FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING JOB AID.**

A. The flight crewmember general emergency training job aid (table 3.2.4.2.) is provided to assist the inspector when evaluating this curriculum segment. The regulatory requirements of FAR Parts 121 and 135 general emergency training are contained in this job aid. The job aid covers the two subject areas of general emergency training, "emergency situation" and "emergency drill" training, and is intended to assist the inspector in evaluating individual training modules.

B. When using this job aid, the inspector should make a side-by-side comparison of the operator's proposal to make the following determinations:

- Whether training modules provide for training on the required elements and events in terms of flight crewmember duties and procedures
- Whether sufficient training module elements and events are outlined to ensure that the appropriate depth and scope of the material will be presented

*FYI: Although some elements and events in general emergency training are "aircraft-specific" (such as exits and slides or sliderafts), the majority of the elements and events should apply to the operator's aircraft fleet.*

C. The job aid is organized with the training subjects listed in the left column and evaluation criteria listed horizontally across the top. Inspectors may use the spaces within the matrix for items such as notes, comments, dates, and checkmarks. There are also blank columns and rows in the job aid that permit inspectors to add other training modules or evaluation criteria.

#### **416.-424. RESERVED**

**TABLE 3.2.4.2.**  
**FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING JOB AID**  
**SUBJECT AREA 11 EMERGENCY SITUATION TRAINING**

TRAINING SUBJECTS	EVALUATION CRITERIA				
	ADEQUACY OF ELE- MENTS/ EVENTS	ADEQUACY OF COURSEWEAR	TRAINING AIDS AND FACILITIES		
Duties & Responsibilities					
Crew Coordination					
Aircraft Fires					
First Aid Equipment					
Illness, Injury, and Basic First Aid					
Ground Evacuation Ditching Procedures					
Rapid Decompression					
Previous Accidents and Incidents					
Basic Survival Training					



**TABLE 3.2.4.2.--Continued**  
**FLIGHT CREWMEMBER GENERAL EMERGENCY TRAINING JOB AID**  
**SUBJECT AREA 11 EMERGENCY DRILL TRAINING**

TRAINING SUBJECTS	EVALUATION CRITERIA				
	ADEQUACY OF ELE- MENTS/ EVENTS	ADEQUACY OF COURSEWEAR	TRAINING AIDS AND FACILITIES		
Hand-Held Fire Extinguishers					
Emergency Oxygen System					
Emergency Exits and Slides *					
Life Preservers					
Ditching Procedures **					

\* NOTE: 1. Each crewmember is only required to participate in one emergency evacuation using a slide during initial new-hire or initial equipment training.

\*\* NOTE: 2. Crewmembers are not required to deploy, remove, detach, transfer, or inflate slides or sliderafts on the aircraft or training device.

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